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## Occupational Employment and Wages in Bowling Green – May 2017

Workers in the Bowling Green Metropolitan Statistical Area had an average (mean) hourly wage of \$19.09 in May 2017, about 22 percent below the nationwide average of \$24.34, according to the U.S. Bureau of Labor Statistics. Regional Commissioner Janet S. Rankin noted that, after testing for statistical significance, 19 groups had significantly lower wages than their respective national averages, including legal; computer and mathematical; and arts, design, entertainment, sports, and media.

When compared to the nationwide distribution, local employment was more highly concentrated in 3 of the 22 occupational groups: production; food preparation and serving related; and installation, maintenance, and repair. Conversely, 11 groups had employment shares significantly below their national representation, including business and financial operations; computer and mathematical; and office and administrative support. (See [table A](#) and [box note](#) at end of release.)

**Table A. Occupational employment and wages by major occupational group, United States and the Bowling Green Metropolitan Statistical Area, and measures of statistical significance, May 2017**

Major occupational group	Percent of total employment		Mean hourly wage		
	United States	Bowling Green	United States	Bowling Green	Percent difference <sup>(1)</sup>
Total, all occupations .....	100.0	100.0	\$24.34	\$19.09*	-22
Management .....	5.1	4.3*	57.65	42.01*	-27
Business and financial operations .....	5.2	3.0*	36.70	28.14*	-23
Computer and mathematical .....	3.0	0.9*	43.18	27.80*	-36
Architecture and engineering .....	1.8	1.8	41.44	32.35*	-22
Life, physical, and social science .....	0.8	0.4*	35.76	31.00*	-13
Community and social service .....	1.5	1.5	23.10	18.41*	-20
Legal .....	0.8	0.6*	51.62	30.66*	-41
Education, training, and library .....	6.1	6.2	26.67	24.68	-7
Arts, design, entertainment, sports, and media .....	1.4	1.0*	28.34	18.55*	-35
Healthcare practitioners and technical .....	6.0	6.1	38.83	33.37*	-14
Healthcare support .....	2.9	2.8	15.05	13.39*	-11
Protective service .....	2.4	1.8*	22.69	16.51*	-27
Food preparation and serving related .....	9.3	11.0*	11.88	10.67*	-10
Building and grounds cleaning and maintenance .....	3.1	2.5*	13.91	11.74*	-16
Personal care and service .....	3.6	3.2*	13.11	11.39*	-13
Sales and related .....	10.2	9.8	19.56	15.14*	-23
Office and administrative support .....	15.4	13.5*	18.24	15.48*	-15
Farming, fishing, and forestry .....	0.3	0.1*	13.87	13.76	-1
Construction and extraction .....	4.0	3.5	24.01	20.13*	-16
Installation, maintenance, and repair .....	3.9	4.6*	23.02	19.93*	-13
Production .....	6.3	13.6*	18.30	17.64	-4
Transportation and material moving .....	7.0	8.0	17.82	15.27*	-14

Note: See footnotes at end of table.

Footnotes:

(1) A positive percent difference measures how much the mean wage in the Bowling Green Metropolitan Statistical Area is above the national mean wage, while a negative difference reflects a lower wage.

\* The percent share of employment or mean hourly wage for this area is significantly different from the national average of all areas at the 90-percent confidence level.

One occupational group—production—was chosen to illustrate the diversity of data available for any of the 22 major occupational categories. Bowling Green had 10,070 jobs in production occupations, accounting for 13.6 percent of local area employment, significantly higher than the 6.3-percent share nationally. The average hourly wage for this occupational group locally was \$17.64, compared to the national wage of \$18.30.

Some of the larger detailed occupations within the production group included assemblers and fabricators, all other, including team assemblers (2,430), first-line supervisors of production and operating workers (520), and welders, cutters, solderers, and brazers (400). Among the higher paying jobs in this group were first-line supervisors of production and operating workers, and tool and die makers, with mean hourly wages of \$26.90 and \$24.58, respectively. At the lower end of the wage scale were laundry and dry-cleaning workers (\$9.56) and woodworking machine setters, operators, and tenders, except sawing (\$11.16). (Detailed data for production occupations are presented in [table 1](#); for a complete listing of detailed occupations available, go to [www.bls.gov/oes/current/oes\\_14540.htm](http://www.bls.gov/oes/current/oes_14540.htm).)

Location quotients allow us to explore the occupational make-up of a metropolitan area by comparing the composition of jobs in an area relative to the national average. (See [table 1](#).) For example, a location quotient of 2.0 indicates that an occupation accounts for twice the share of employment in the area than it does nationally. In the Bowling Green Metropolitan Statistical Area, above-average concentrations of employment were found in many of the occupations within the production group. For instance, forging metal and plastic machine setters, operators, and tenders were employed at 17.7 times the national rate in Bowling Green, and tool and die makers, at 4.7 times the U.S. average. On the other hand, machinists had a location quotient of 1.1 in Bowling Green, indicating that this particular occupation's local and national employment shares were similar.

These statistics are from the Occupational Employment Statistics (OES) survey, a federal-state cooperative program between BLS and State Workforce Agencies, in this case, the Kentucky Department for Workforce Investment.

## **Notes on Occupational Employment Statistics Data**

With the release of the May 2017 estimates, the OES program has replaced 21 detailed occupations found in the 2010 Standard Occupational Classification (SOC) with 10 new aggregations of those occupations. In addition, selected 4- and 5-digit North American Industry Classification System (NAICS) industries previously published by OES will no longer be published separately. Some of the 4-digit NAICS industries that are no longer being published separately will instead be published as OES-specific industry aggregations. More information about the new occupational and industry aggregations is available at [www.bls.gov/oes/changes\\_2017.htm](http://www.bls.gov/oes/changes_2017.htm).

A value that is statistically different from another does not necessarily mean that the difference has economic or practical significance. Statistical significance is concerned with the ability to make confident statements about a universe based on a sample. It is entirely possible that a large difference between two values is not significantly different statistically, while a small difference is, since both the size and heterogeneity of the sample affect the relative error of the data being tested.

## **Technical Note**

The Occupational Employment Statistics (OES) survey is a semiannual mail survey measuring occupational employment and wage rates for wage and salary workers in nonfarm establishments in the United States. The OES data available from BLS include cross-industry occupational employment and wage estimates for the nation; over 650 areas, including states and the District of Columbia, metropolitan statistical areas (MSAs), metropolitan divisions, nonmetropolitan areas, and territories; national industry-specific estimates at the NAICS sector, 3-, 4-, and selected 5- and 6-digit industry levels; and national estimates by ownership across all industries and for schools and hospitals. OES data are available at [www.bls.gov/oes/tables.htm](http://www.bls.gov/oes/tables.htm).

OES estimates are constructed from a sample of about 1.2 million establishments. Each year, two semiannual panels of approximately 200,000 sampled establishments are contacted, one panel in May and the other in November. Responses are obtained by mail, Internet or other electronic means, email, telephone, or personal visit. The May 2017 estimates are based on responses from six semiannual panels collected over a 3-year period: May 2017, November 2016, May 2016, November 2015, May 2015, and November 2014. The overall national response rate for the six panels, based on the 50 states and the District of Columbia, is 72 percent based on establishments and 68 percent based on weighted sampled employment. The unweighted sample employment of 82 million across all six semiannual panels represents approximately 58 percent of total national employment. The sample in the Bowling Green Metropolitan Statistical Area included 1,058 establishments with a response rate of 73 percent. For more information about OES concepts and methodology, go to [www.bls.gov/oes/current/oes\\_tec.htm](http://www.bls.gov/oes/current/oes_tec.htm).

The May 2017 OES estimates are based on the 2010 Standard Occupational Classification (SOC) system and the 2017 North American Industry Classification System (NAICS). Information about the 2010 SOC is available on the BLS website at [www.bls.gov/soc](http://www.bls.gov/soc) and information about the 2017 NAICS is available at [www.bls.gov/bls/naics.htm](http://www.bls.gov/bls/naics.htm).

## **Metropolitan area definitions**

The substate area data published in this release reflect the standards and definitions established by the U.S. Office of Management and Budget.

The **Bowling Green Metropolitan Statistical Area** includes Allen, Butler, Edmonson and Warren Counties in Kentucky.

### **Additional information**

OES data are available on our regional web page at [www.bls.gov/regions/southeast](http://www.bls.gov/regions/southeast). Answers to frequently asked questions about the OES data are available at [www.bls.gov/oes/oes\\_ques.htm](http://www.bls.gov/oes/oes_ques.htm). Detailed technical information about the OES survey is available in our Survey Methods and Reliability Statement on the BLS website at [www.bls.gov/oes/current/methods\\_statement.pdf](http://www.bls.gov/oes/current/methods_statement.pdf).

Information in this release will be made available to sensory impaired individuals upon request. Voice phone: (202) 691-5200; Federal Relay Service: (800) 877-8339.

**Table 1. Employment and wage data from the Occupational Employment Statistics survey, by occupation, Bowling Green Metropolitan Statistical Area, May 2017**

Occupation <sup>(1)</sup>	Employment		Mean wages	
	Level <sup>(2)</sup>	Location quotient <sup>(3)</sup>	Hourly	Annual <sup>(4)</sup>
Production occupations .....	10,070	2.2	\$17.64	\$36,690
First-line supervisors of production and operating workers .....	520	1.6	26.90	55,960
Structural metal fabricators and fitters .....	30	0.8	19.91	41,420
Assemblers and fabricators, all other, including team assemblers .....	2,430	3.6	18.65	38,790
Bakers .....	60	0.6	11.37	23,660
Butchers and meat cutters .....	(5)	(5)	12.33	25,650
Computer-controlled machine tool operators, metal and plastic .....	170	2.3	12.57	26,150
Computer numerically controlled machine tool programmers, metal and plastic .....	50	4.1	21.94	45,640
Forging machine setters, operators, and tenders, metal and plastic .....	170	17.7	20.87	43,400
Cutting, punching, and press machine setters, operators, and tenders, metal and plastic .....	180	1.8	15.49	32,220
Machinists .....	220	1.1	22.09	45,950
Molding, coremaking, and casting machine setters, operators, and tenders, metal and plastic .....	210	2.6	16.52	34,350
Tool and die makers .....	180	4.7	24.58	51,130
Welders, cutters, solderers, and brazers .....	400	2.1	17.98	37,390
Welding, soldering, and brazing machine setters, operators, and tenders .....	170	8.6	19.68	40,940
Printing press operators .....	140	1.6	16.62	34,560
Laundry and dry-cleaning workers .....	120	1.1	9.56	19,880
Cabinetmakers and bench carpenters .....	40	0.8	14.53	30,210
Woodworking machine setters, operators, and tenders, except sawing .....	100	2.3	11.16	23,220
Water and wastewater treatment plant and system operators .....	50	0.8	16.26	33,830
Grinding and polishing workers, hand .....	(5)	(5)	13.40	27,870
Mixing and blending machine setters, operators, and tenders .....	200	3.0	14.00	29,120
Cutting and slicing machine setters, operators, and tenders .....	50	1.6	19.60	40,760
Inspectors, testers, sorters, samplers, and weighers .....	480	1.7	20.21	42,040
Packaging and filling machine operators and tenders .....	900	4.4	19.28	40,100
Coating, painting, and spraying machine setters, operators, and tenders .....	40	0.9	18.67	38,830
Paper goods machine setters, operators, and tenders .....	300	6.2	19.12	39,760
Helpers--production workers .....	160	0.8	13.41	27,890
Production workers, all other .....	1,260	9.5	12.77	26,570

**Footnotes:**

- (1) For a complete listing of all detailed occupations in the Bowling Green Metropolitan Statistical Area, see [www.bls.gov/oes/current/oes\\_14540.htm](http://www.bls.gov/oes/current/oes_14540.htm)
- (2) Estimates for detailed occupations do not sum to the totals because the totals include occupations not shown separately. Estimates do not include self-employed workers.
- (3) The location quotient is the ratio of the area concentration of occupational employment to the national average concentration. A location quotient greater than one indicates the occupation has a higher share of employment than average, and a location quotient less than one indicates the occupation is less prevalent in the area than average.
- (4) Annual wages have been calculated by multiplying the hourly mean wage by a "year-round, full-time" hours figure of 2,080 hours; for those occupations where there is not an hourly mean wage published, the annual wage has been directly calculated from the reported survey data.
- (5) Estimate not released.